The researches abstracts of
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The development of structural and technical solutions of metal connecting systems that used in double layer-space structures

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The research problem is concentrated in the structural and technical solutions for connecting systems was - and still is - one of the most critical points in space structures. Because their including large numbers of structural members which are distributed in three-dimensional space and be assembling in specific points. In addition there has a crucial role in determining the final cost of system as required accuracy in manufacturing and speed erection; along with the flexibility, simplicity, structural efficiency and the competitiveness of the value of the system as a whole. Thus, the aim of research is to conduct an analytical study on structural and technical solutions of connecting systems used in double layer- space structures. To achieve this aim, use descriptive analytical approach was based on four points: 1st the concepts and terminology, 2ed study of the evolution connecting systems, 3ed the classification and analysis of it, and ending with analytical comparison between these systems.

Refererances
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2nd research

The Spatial Economy of the Metal spiral stairs and safe design requirements of its users

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The research problem stems from the question about what are the rules and considerations to achieve a safe and comfortable transition for users of prefabricated spiral stairs that saving space? And on this basis, the research aims to provide an analytical study on the spatial economy of metal spiral stairs and result the design requirements for the safe using of metal spiral stairs, depending on the analysis of the related constructive requirements such as: location, planning of space, the capacity of the loads, building codes and requirements for fabrication and installation. To achieve that aim of research, it will use of descriptive and analytical methodology was based on two points: first, determine the properties and classification of metal stairs, second analysis the spatial economy of spiral metal stairs, and result the safe design requirements of it’s users. Finally, the research has included some results that related with the subject.

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Because construction is a major consumer of many natural resources and the source of many of the waste, the challenge facing the metal construction industry, is to provide the origin of economic maintains or improves the lives of its users, at the same time reduces the impact of social and environmental burdens imposed on them. Accordingly, the research problem stems from two key questions are: How to benefit from structural steel to achieve sustainability? what are the requirements for sustainability in the design of light weight metal buildings? And then, the aim of the research was a study on the structural steel and requirements of sustainable design of light weight metal buildings. This aim has been achieved according to descriptive analysis method that based on three basic themes: first sustainable construction. Concepts and properties. Second, structural steel and the requirements of sustainability thirdly sustainable design considerations light weight metal buildings.

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Suitability between erection processes effectiveness and safety requirements in the metal construction projects

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The search starts from two fundamental questions: how to achieve procedural effectiveness for the erection of metal buildings? At the same time, How to provide a safe working environment are available and the safety requirements? Based on that,. The research aims to prepare an analytical study on the planning of erection processes in light weight metal projects. This achieves the processes effectiveness in a sound, logical, sequential, and the lowest cost, according to specific individual responsibilities for all participants, and ensures at the same time completing the procedures in accordance with the requirements of safety allow working in a safe environment. To achieve this aims.. it will used an analytical and descriptive approach that based on three points: first Metal erection process .. documents, parties and stages, secondly the processes effectiveness and safety requirements in the procedures of metal pre-erection. Third processes effectiveness and safety requirements during metal erection procedures.

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